



# WPDES PERMIT

*STATE OF WISCONSIN*  
*DEPARTMENT OF NATURAL RESOURCES*  
**PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE  
ELIMINATION SYSTEM**

**Seneca Foods Corporation, Cambria West**

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility  
located at  
801 W Commerce St, Cambria, WI  
to

**an unnamed tributary to the North Branch of Duck Creek,  
located in the Duck and Rocky Run Creeks Watershed in the Lower Wisconsin River Basin  
and Groundwaters of the Wisconsin River Basin via Spray Irrigation Systems**

in accordance with the effluent limitations, monitoring requirements and other conditions set  
forth in this permit.

The permittee shall not discharge after the date of expiration. If the permittee wishes to continue to discharge after this expiration date an application shall be filed for reissuance of this permit, according to Chapter NR 200, Wis. Adm. Code, at least 180 days prior to the expiration date given below.

State of Wisconsin Department of Natural Resources  
For the Secretary

By \_\_\_\_\_  
Thomas Bauman  
Wastewater Field Supervisor

\_\_\_\_\_  
Date Permit Signed/Issued for Modification

**PERMIT TERM: EFFECTIVE DATE - January 01, 2019**  
**EFFECTIVE DATE OF MODIFICATION: June 01, 2021**

**EXPIRATION DATE - December 31, 2023**

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# 1 In-Plant Requirements

## 1.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)
103	Characterization of can cooling water directed to any spray irrigation system.
107	Characterization of process wastewater directed to any spray irrigation system.
108	Characterization of combined flow of can cooling water and process wastewater directed to any spray irrigation system.

## 1.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

### 1.2.1 Sampling Point 103 - Can Cooling Water

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Total Daily	
Chloride		mg/L	Weekly	Composite	
Nitrogen, Total Kjeldahl		mg/L	Weekly	Composite	
BOD <sub>5</sub> , Total		mg/L	Weekly	Composite	

#### 1.2.1.1 Report Only When In Use

This outfall will be used rarely if at all during the permit term. The reporting listed in the above table is only required during a specific month if the permittee discharges from this outfall within that month. Parameters with a frequency of weekly shall be reported if the permittee discharges from this outfall at any time during each seven day period within a month beginning at the first of the month.

### 1.2.2 Sampling Point 107 - Process Wastewater and 108- Cooling & Process Mixture

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Total Daily	
Chloride		mg/L	Weekly	Composite	
Nitrogen, Total Kjeldahl		mg/L	Weekly	Composite	
BOD <sub>5</sub> , Total		mg/L	Weekly	Composite	
Phosphorus, Total		mg/L	Annual	Composite	

#### **1.2.2.1 Monitoring Required When Discharging to Spray Irrigation Sites**

Testing of each wastewater being spray irrigated, for the monitoring parameters Flow, Chloride, BODS, and Total Kjeldahl Nitrogen, is only required during those months when there is a discharge of wastewater to any spray irrigation sites. Parameters with a frequency of annual shall be reported if the permittee discharges from an outfall at any time during a calendar year.

## 2 Surface Water Requirements

### 2.1 Sampling Point(s)

The discharge(s) shall be limited to the waste type(s) designated for the listed sampling point(s).

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)
002	Can Cooling Water from the North Lagoon discharged to an unnamed tributary to the North Branch of Duck Creek.

### 2.2 Monitoring Requirements and Effluent Limitations

The permittee shall comply with the following monitoring requirements and limitations.

#### 2.2.1 Sampling Point (Outfall) 002 - Can Cooling Water

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Continuous	Total Daily	
BOD <sub>5</sub> , Total	Daily Max	20 mg/L	Weekly	Composite	
BOD <sub>5</sub> , Total	Monthly Avg	10 mg/L	Weekly	Composite	
Chlorine, Total Residual	Daily Max	0.019 mg/L	Weekly	Grab	
Chlorine, Total Residual	Weekly Avg	0.0073 mg/L	Weekly	Grab	
pH Field	Daily Max	9.5 su	Weekly	Grab	
pH Field	Daily Min	6.0 su	Weekly	Grab	
Dissolved Oxygen	Daily Min	5.0 mg/L	Monthly	Grab	
Temperature Maximum		deg F	Weekly	Measure	See Table 2 for Daily Max. and Weekly Ave. temperature maximum limits.
Phosphorus, Total	Monthly Avg	1.4 mg/L	Weekly	Composite	This is an interim limit, see section 2.2.1.5 for further details on final phosphorus limits.
Acute WET		TU <sub>a</sub>	See Listed Qtr(s)	Composite	See section 2.2.1.9 for listed quarters.
Chronic WET	Monthly Avg	1.0 TU <sub>c</sub>	Annual	Composite	See section 2.2.1.9 for listed quarters.
Arsenic, Total Recoverable	Monthly Avg	13 mg/L	1/ 2 Weeks	Composite	See sections 2.2.1.1 and 2.2.1.2.

### 2.2.1.1 Total Metals Analyses

Measurements of total metals and total recoverable metals shall be considered as equivalent.

### 2.2.1.2 Potential Removal of Effluent Limitation(s)

The effluent limitations for Total Recoverable Arsenic become effective when this permit is issued. Every other week monitoring is required upon permit reissuance.

However, when 11 or more representative results for Total Recoverable Arsenic have been provided to the Department, the permittee may request that the Department make a determination of the need for a limit under section NR 106.05, Wisconsin Administrative Code. For this request, the samples shall be evenly spaced over the period or periods of discharge during at least 12 months time and must be tested according to the “Sampling and Testing Procedures” in the Standard Requirements section in this permit. Within 60 days of such request, the Department shall make that determination. If the Department determines that effluent limitations are unnecessary based on the procedures in NR 106.05, the Department shall notify the permittee that the limitations will not become effective, pursuant to NR106.04(4). The monitoring requirements for Total Recoverable Arsenic shall be reduced to quarterly. A permit modification is required to implement these changes.

If, after reviewing the data, the Department determines that effluent limitations for Total Recoverable Arsenic are necessary based on the procedures in NR 106.05, the requirement to meet the effluent limitations will not be removed nor will the monitoring frequency be reduced.

### 2.2.1.3 Effluent Temperature Monitoring

For manually measuring effluent temperature, grab samples should be collected at 6 evenly spaced intervals during the 24-hour period. Alternative sampling intervals may be approved if the permittee can show that the maximum effluent temperature is captured during the sampling interval. For monitoring temperature continuously, collect measurements in accordance with s. NR 218.04(13). This means that discrete measurements shall be recorded at intervals of not more than 15 minutes during the 24-hour period. In either case, report the maximum temperature measured during the day on the DMR. For seasonal discharges collect measurements either manually or continuously during the period of operation and report the daily maximum effluent temperature on the DMR.

### 2.2.1.4 Effluent Temperature Limitations

Limits for Temperature, Maximum: The effluent limitations for “Temperature, Maximum” become effective when this permit is issued. Monitoring is required weekly upon permit reissuance. Daily maximum temperatures shall be reported so that applicable daily maximum limits can be compared to the reported daily maximum temperatures and applicable weekly average limits can be compared to the weekly averages of the reported daily maximum temperatures.

**Table 2: Effluent Limitations for 'Temperature Maximum'**

Month	Weekly Average Limit (°F)	Daily Maximum Limit (°F)
JUN	76	-
JUL	81	85
AUG	81	84
SEP	73	-
OCT	61	80

### **2.2.1.5 Phosphorus Water Quality Based Effluent Limitation(s)**

The final water quality based effluent limit for phosphorus is 0.075 mg/L as a six-month average (May-October and November-April) along with a monthly average limit of 0.225 mg/L based on NR 217.14(2).

Additionally, a monthly mass limit of 0.64 lbs./day will be included based on a peak monthly flow of 1.02 mgd (reported in the reissuance application) and will take effect per the Compliance Schedule unless:

- (A) 1.) an application for a variance; or 2.) new information or additional data that supports a recalculation of the numeric limitation; and
- (B) The Department modifies, revokes and reissues, or reissues the permit to incorporate a revised limitation before the expiration of the compliance schedule\*.

Note: The permittee may also submit an application for a variance within 60 days of this permit reissuance, as noted in the permit cover letter, in accordance with s. 283.15, Stats.

If Adaptive Management or Water Quality Trading is approved as part of an application for a modification or revocation and reissuance, the plan and specifications submittal, construction, and final effective dates for compliance with the total phosphorus WQBEL may change in the reissued or modified permit. In addition, the numeric value of the water quality based effluent limit may change based on new information (e.g. a TMDL) or additional data. If a variance is approved for the next reissuance, interim limits and conditions will be imposed in the reissued permit in accordance with s. 283.15, Stats., and applicable regulations. A permittee may apply for a variance to the phosphorus WQBEL at the next reissuance even if the permittee did not apply for a phosphorus variance as part of this permit reissuance.

Additional Requirements: If a water quality based effluent limit has taken effect in a permit, any increase in the limit is subject to s. NR 102.05(1) and ch. NR 207, Wis. Adm. Code. When a six-month average effluent limit is specified for Total Phosphorus the applicable averaging periods are May through October and November through April.

\*Note: The Department will prioritize reissuances and revocations, modifications, and reissuances of permits to allow permittees the opportunity to implement adaptive management or nutrient trading in a timely and effective manner.

### **2.2.1.6 Alternative Approaches to Phosphorus WQBEL Compliance**

Rather than upgrading its wastewater treatment facility to comply with WQBELs for total phosphorus, the permittee may use Water Quality Trading or the Watershed Adaptive Management Option, to achieve compliance under ch. NR 217, Wis. Adm. Code, provided that the permit is modified, revoked and reissued, or reissued to incorporate any such alternative approach. The permittee may also implement an upgrade to its wastewater treatment facility in combination with Water Quality Trading or the Watershed Adaptive Management Option to achieve compliance, provided that the permit is modified, revoked and reissued, or reissued to incorporate any such alternative approach. If the Final Compliance Alternatives Plan concludes that a variance will be pursued, the Plan shall provide information regarding the basis for the variance.

### **2.2.1.7 Submittal of Permit Application for Next Reissuance and Adaptive Management or Pollutant Trading Plan or Variance Application**

The permittee shall submit the permit application for the next reissuance at least 6 months prior to expiration of this permit. If the permittee intends to pursue adaptive management to achieve compliance with the phosphorus water quality based effluent limitation, the permittee shall submit with the application for the next reissuance: a completed Watershed Adaptive Management Request Form 3200-139, the completed Adaptive Management Plan and final plans for any system upgrades necessary to meet interim limits pursuant to s. NR 217.18, Wis. Adm. Code. If the permittee intends to pursue pollutant trading to achieve compliance, the permittee shall submit an application for water quality trading with the application for the next reissuance. If system upgrades will be used in combination with pollutant trading to achieve compliance with the final water quality-based limit,



the reissued permit will specify a schedule for the necessary upgrades. If the permittee intends to seek a variance, the permittee shall submit an application for a variance with the application for the next reissuance.

### 2.2.1.8 Additives

The permittee shall maintain a record of the dosage rate of all additives used on a monthly basis. The additives may be changed during the term of the permit following procedures in the 'Additives' subsection of the Standard Requirements.

### 2.2.1.9 Whole Effluent Toxicity (WET) Testing

**Primary Control Water:** receiving water, upstream and out of the influence of the discharge or a standard laboratory water.

**Instream Waste Concentration (IWC):** 100 %

**Dilution series:** At least five effluent concentrations and dual controls must be included in each test.

- **Acute:** 100, 50, 25, 12.5, 6.25% and any additional selected by the permittee.
- **Chronic:** 100, 75, 50, 25, 12.5% and any additional selected by the permittee.

#### WET Testing Frequency:

**Acute** tests shall be conducted once every other year. Sampling should be completed within the first 30 days of the season to allow time for additional follow up, if needed. Tests are required during the following quarters.

- **Acute:** July 1 – September 30, 2019; July 1 – September 30, 2021; July 1 – September 30, 2023

Acute WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the last full calendar year of this permit. For example, the next test would be required in **July 1 – September 30, 2025**.

**Chronic** tests shall be conducted once each year. Sampling should be completed within the first 30 days of the season to allow time for additional follow up, if needed. Tests are required during the following quarters.

- **Chronic:** July 1 – September 30, 2019; July 1 – September 30, 2020; July 1 – September 30, 2021, July 1 – September 30, 2022; July 1 – September 30, 2023

Chronic WET testing shall continue after the permit expiration date (until the permit is reissued) in accordance with the WET requirements specified for the last full calendar year of this permit. For example, the next test would be required in **July 1 – September 30, 2024**.

**Testing:** WET testing shall be performed during normal operating conditions. Permittees are not allowed to turn off or otherwise modify treatment systems, production processes, or change other operating or treatment conditions during WET tests.

**Reporting:** The permittee shall report test results on the Discharge Monitoring Report form, and also complete the "Whole Effluent Toxicity Test Report Form" (Section 6, "*State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2<sup>nd</sup> Edition*"), for each test. The original, complete, signed version of the Whole Effluent Toxicity Test Report Form shall be sent to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., P.O. Box 7921, Madison, WI 53707-7921, within 45 days of test completion. The Discharge Monitoring Report (DMR) form shall be submitted electronically by the required deadline.

**Determination of Positive Results:** An acute toxicity test shall be considered positive if the Toxic Unit - Acute ( $TU_a$ ) is greater than 1.0 for either species. The  $TU_a$  shall be calculated as follows:  $TU_a = 100 \div LC_{50}$ . A chronic toxicity test shall be considered positive if the Toxic Unit - Chronic ( $TU_c$ ) is greater than 1.0 for either species. The  $TU_c$  shall be calculated as follows:  $TU_c = 100 \div IC_{25}$ .

**Additional Testing Requirements:** Within 90 days of a test which showed positive results, the permittee shall submit the results of at least 2 retests to the Biomonitoring Coordinator on "Whole Effluent Toxicity Test Report Forms". The 90 day reporting period shall begin the day after the test which showed a positive result. The retests shall be completed using the same species and test methods specified for the original test (see the Standard Requirements section herein).

#### **2.2.1.10 Halogen, Total Residual as Chlorine**

Acceptable test methods for determining Halogens, Total Residual as Cl<sub>2</sub> are the same as those for measuring Chlorine, Total Residual. These methods are listed for Chlorine, Total Residual in chapter NR 219, Table B, Wisconsin Administrative Code. The preferred test methods are the Spectrophotometric, DPD; the Electrode; and the Back Titration with amperometric endpoint.

### 3 Land Treatment Requirements

#### 3.1 Sampling Point(s)

The discharge(s) shall be limited to the waste type(s) designated for the listed sampling point(s).

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, Waste Description/Sample Contents and Treatment Description (as applicable)
023	Site 003. Fixed system 500 ft west of the can cooling water lagoon. 6 acres. Can Cooling Water Only.
024	Site 004. Immediately south of can cooling water lagoon. 9 acres. Rarely used as a backup irrigation site.
025	Site 005. Center pivot spray irrigation located 1000 ft south of Outfall 023, adjacent to Morgan Road. 32 acres.
027	Site 007. Center pivot spray irrigation located adjacent to Morgan Road, 2000 ft west of the Prairie Road intersection. 74 acres.
028	Site 008. Center pivot spray irrigation located 500 ft northwest of Outfall. 027. 6 acres.
029	Site 009. Fixed set spray irrigation. Narrow set running north to south, just north of Outfall 030. 2.45 acres.
030	Site 010. Fixed set spray irrigation located along the northeast perimeter of Outfall 027. 3.12 acres.
031	Site 011. Fixed set spray irrigation located along the southeast perimeter of Outfall 027, adjacent to Morgan Road. 5 acres.
032	Site 012. Fixed set spray irrigation located along the southwest perimeter of Outfall 027, adjacent to Morgan Road. 5.18 acres.
033	Site 013A. Fixed set spray irrigation located along the northwest perimeter of Outfall 027, between Outfall 027 and Outfall 028. 3.25 acres.
034	Site 013B. Fixed set spray irrigation located along the northern perimeter of Outfall 028. 1 acre.
035	Site 014. Fixed set spray irrigation located immediately east of Outfall 028. 7.9 acres.
036	Site 015, North of outfall 025. Size 29.2 acres.
037	Site 016. Hahn field, northwest corner. Size 31.5 acres.
038	Site 017, Hahn field, southwest corner. Size 20.3 acres.
039	Site 018, Hahn field, center pivot. Size 97.2 acres.
042	Site 006, Pivot spray irrigation located beside the perimeter of Outfall 025. Size 9 ac

#### 3.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

##### 3.2.1 Sampling Point (Outfall) 023 - Spray Site 003, Spray Irrigation

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Total Daily	
Hydraulic Application Rate	Monthly Avg	27,500 gal/ac/day	Monthly	Calculated	

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Chloride		lbs/ac/yr	Annual	Total Annual	
Nitrogen, Max Applied On Any Zone	Annual Total	400 lbs/ac/yr	Annual	Total Annual	

Daily Log – Monitoring Requirements and Limitations				
All discharge and monitoring activity shall be documented on log sheets. Originals of the log sheets shall be kept by the permittee as described under “Records Retention” in the Standard Requirements section, and if requested, made available to the Department.				
Parameters	Limit	Units	Sample Frequency	Sample Type
Zone or Location Being Sprayed	-	Number	Daily	Log
Acres Being Sprayed	-	Acres	Daily	Log
Start to End Time	-	Date, Hour	Daily	Log
Maximum Applied Volume	27,500	Gal/Acre/Load Cycle	Daily	Calculated

Annual Report – Monitoring Requirements and Limitations				
The Annual Report is due by January 31 <sup>st</sup> of each year for the previous calendar year.				
Parameters	Limit	Units	Sample Frequency	Sample Type
Total Volume Per Zone	-	Gallons	Annual	Total Annual
Total Nitrogen per Zone	<b>400</b>	Pounds/Acre/Year	Annual	Calculated
Soil Analysis	-	-	Annual	Composite
Fertilizer Used	-	Pounds/Acre/Year	Annual	Total Annual

Note: Inches/load cycle = gallons/acre/load cycle divided by 27,154.

### 3.2.1.1 Monthly Avg Flow – LT Calculation

The monthly average discharge flow for Land Treatment systems is calculated by dividing the total wastewater volume discharged for the month by the total number of days in the month.

### 3.2.1.2 Spray Irrigation Site(s) - Soil Analysis

The soil at each spray irrigation site corresponding to each spray irrigation sample point (outfall) shall be tested annually for nitrate-nitrogen, available phosphorus, available potassium and pH. The soil tests shall be conducted by an approved testing facility. Before using the spray irrigation site each spring, the permittee shall submit to the Department a Soil Test Report and a Preplant Profile Nitrate Report. All nutrient applications shall be consistent with recommendations found in the University of Wisconsin – Extension pamphlet A2809: Nutrient Application Guidelines for Field, Vegetable, and Fruit Crops in Wisconsin, or as approved in the management plan. See the following Wisconsin Extension Service’s pamphlets for more information: A2100 – Sampling for Soil Testing, A3512 – Wisconsin’s Preplant Soil Nitrate Test, and A2519 – Soil and Applied Nitrogen.

### 3.2.1.3 Report Can Cooling Water Discharge to Spray Irrigation Only When In Use

The monitoring listed in the above table is only required during a specific month if the permittee discharges from an outfall within that month. Parameters with a frequency of annual must be reported if the permittee discharges from an outfall at any time during a calendar year.

### 3.2.2 Sampling Point (Outfall) 024 - Spray Site 004; 025- Spray Site 005; 027- Spray Site 007; 028- Spray Site 008; 029- Spray Site 009; 030- Spray Site 010; 031- Spray Site 011; 032- Spray Site 012; 033- Spray Site 013A; 034- Spray Site 013B; 035- Spray Site 014; 036- Spray Site 015 ; 037- Spray Site 016; 038- Spray Site 017; 039- Spray Site 018, and 042- Site 006 - Pivot, Spray Irrigation

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Total Daily	
Hydraulic Application Rate	Monthly Avg	10,000 gal/ac/day	Monthly	Calculated	
Chloride		lbs/ac/yr	Annual	Total Annual	
Nitrogen, Max Applied On Any Zone	Annual Total	400 lbs/ac/yr	Annual	Total Annual	

Daily Log – Monitoring Requirements and Limitations				
All discharge and monitoring activity shall be documented on log sheets. Originals of the log sheets shall be kept by the permittee as described under “Records Retention” in the Standard Requirements section, and if requested, made available to the Department.				
Parameters	Limit	Units	Sample Frequency	Sample Type
Zone or Location Being Sprayed	-	Number	Daily	Log
Source of Discharge to Spray Site	-	In-Plant Sample Point Number	Daily (per occurrence)	Log

<b>Daily Log – Monitoring Requirements and Limitations</b> All discharge and monitoring activity shall be documented on log sheets. Originals of the log sheets shall be kept by the permittee as described under “Records Retention” in the Standard Requirements section, and if requested, made available to the Department.				
Parameters	Limit	Units	Sample Frequency	Sample Type
Flow Volume	-	Total Gallons	Daily (per occurrence)	Log
Acres Being Sprayed	-	Acres	Daily	Log
Start to End Time	-	Date, Hour	Daily	Log
Maximum Applied Volume	<b>1.4</b>	Inches/Load Cycle	Daily	Calculated

If flow from more than one In-Plant sample point occurs during a day, record the source, flow volume and time for each discharge in the daily log.

<b>Annual Report – Monitoring Requirements and Limitations</b> The Annual Report is due by January 31 <sup>st</sup> of each year for the previous calendar year.				
Parameters	Limit	Units	Sample Frequency	Sample Type
Total Volume Per Zone	-	Gallons	Annual	Total Annual
Total Nitrogen per Zone	<b>400</b>	Pounds/Acre/Year	Annual	Calculated
Soil Analysis	-	-	Annual	Composite
Fertilizer Used	-	Pounds/Acre/Year	Annual	Total Annual

Note: Inches/load cycle = gallons/acre/load cycle divided by 27,154.

### 3.2.2.1 Monthly Avg Flow – LT Calculation

The monthly average discharge flow for Land Treatment systems is calculated by dividing the total wastewater volume discharged for the month by the total number of days in the month.

### 3.2.2.2 Report Wastewater Discharge to Spray Irrigation Only When In Use

The monitoring listed in the above table is only required during a specific month if the permittee discharges from an outfall within that month. Parameters with a frequency of annual must be reported if the permittee discharges from an outfall at any time during a calendar year.

### 3.2.2.3 Spray Irrigation Site(s) - Soil Analysis

The soil at each spray irrigation site corresponding to each spray irrigation sample point (outfall) shall be tested annually for nitrate-nitrogen, available phosphorus, available potassium and pH. The soil tests shall be conducted by an approved testing facility. Before using the spray irrigation site each spring, the permittee shall submit to the Department a Soil Test Report and a Preplant Profile Nitrate Report. All nutrient applications shall be consistent with recommendations found in the University of Wisconsin – Extension pamphlet A2809: Nutrient Application Guidelines for Field, Vegetable, and Fruit Crops in Wisconsin, or as approved in the management plan. See the following

Wisconsin Extension Service's pamphlets for more information: A2100 – Sampling for Soil Testing, A3512 – Wisconsin's Preplant Soil Nitrate Test, and A2519 – Soil and Applied Nitrogen.

### **3.2.2.4 Nitrogen Loading Limitations**

The **400** pound total nitrogen/acre/year loading limit for spray irrigation is continued from the previous permit except as provided in paragraph 3.2.2.5. The permittee is eligible for an increased loading limit, if requested, when all preventative action limits have been met at the DMZ or property boundary.

### **3.2.2.5 Nitrogen Loading Contingent on Groundwater Results**

The maximum nitrogen loading limit for any calendar year shall be 600 lb/acre/year when the previous year's monitoring results for all down-gradient monitoring wells at the DMZ or property boundary demonstrate compliance with all groundwater preventive action limits.

The maximum nitrogen loading limit for any calendar year shall be 400 lb/acre/year when the previous calendar year's monitoring results for any down-gradient well at the DMZ or property boundary shows two (2) or more sampling events exceeding a Preventive Action Limit (but no Enforcement Standard Exceedence). A Preventative Action Limit (PAL) exceedence in any downgradient well will require a response in accordance with NR 140.24, Wis. Adm. Code.

The maximum nitrogen loading limit for any calendar year shall be 300 lb/acre/year (Crop Needs) when the previous calendar year's monitoring results for any down-gradient well at the DMZ or property boundary shows two (2) or more sampling events exceeding an Enforcement Standard. The Department will require actions specified in s. NR 140.26, Wis. Adm. Code, in response to groundwater standard exceedences and to return the system to compliance with groundwater standards as necessary.

The permittee shall notify the Department of their eligibility to increase their nitrogen loading limit based on groundwater monitoring data.

Note: "Down-gradient" refers to any well that is impacted by the activities of the facility

## 4 Groundwater Requirements

### 4.1 Monitoring Requirements and Limitations

#### 4.1.1 Groundwater Monitoring System for Lagoon - north of plant

**Location of Monitoring System:** North of Plant

**Wells to be Monitored:** 824 (WC-1), 825 (WC-1P), 826 (WC-2), 827 (WC-3), 828 (WC-4), 829 (WC-5), 830 (WC-6), 831 (WC-7), 832 (WC-8R)

**Required Monitoring:** Grab samples shall be collected from each well to be monitored per the frequency shown in the table below, except that monthly grab samples shall be collected from each new well during the first 3 months after well installation. The grab samples shall be analyzed for the parameters specified in the table below.

PARAMETER	UNITS	PREVENTIVE ACTION LIMIT	ENFORCEMENT STANDARD	FREQUENCY
Groundwater Elevation	feet MSL	*****	N/A	Quarterly
Depth To Groundwater	feet	*****	N/A	Quarterly
Chloride Dissolved	mg/L	*****	N/A	Quarterly
Nitrogen, Ammonia Dissolved	mg/L	*****	N/A	Quarterly
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	*****	N/A	Quarterly
Nitrogen, Organic Dissolved	mg/L	*****	N/A	Quarterly
pH Field	su	*****	N/A	Quarterly
COD, Filtered	mg/L	*****	N/A	Quarterly
Solids, Total Dissolved	mg/L	*****	N/A	Quarterly

**Well Used To Calculate Preventive Action Limits (PALs):** 802 (MW -2)

PALs listed in the table below have been calculated based on background groundwater quality data from this designated well. Groundwater contaminant concentrations shall be minimized and PALs met in groundwater monitoring wells to the extent it is technically and economically feasible.

**Compliance Well(s) for Enforcement Standards (ESs):** 832 (WC-8R), 831 (WC-7), 830 (WC-6)

Enforcement standards are to be met in groundwater located beyond the 100 foot design management zone, or beyond the property boundary, whichever is closer to the land treatment system. See the Standard Requirements section of this permit for additional conditions related to exceedance of groundwater standards.

PARAMETER	UNITS	PAL	ES
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	3.2 (ACL)	10
Chloride Dissolved	mg/L	125	250
pH Field	su	6.1 – 8.1	N/A
Nitrogen, Ammonia Dissolved	mg/L	0.97	9.7
Organic Nitrogen Dissolved	mg/L	2.3	N/A
COD, Filtered	mg/L	34	N/A
Solids, Total Dissolved	mg/L	600	N/A



#### 4.1.1.1 Alternative Concentration Limit

An alternative concentration limit (ACL) of **3.2 mg/L** has been established for the **Nitrogen, Nitrite + Nitrate Preventative Action Limit** at this site. This ACL is authorized in conjunction with an exemption granted under s. NR 140.28, Wis. Adm. Code.

#### 4.1.1.2 pH Preventive Action Limits

A pH monitoring result is considered to have exceeded the pH preventive action limit (PAL) for this site if the result is less than **6.1** s.u. or greater than **8.1** s.u.

#### 4.1.1.3 Preventive Action Limits for Indicator Parameters

Preventive Action Limits (PALs) for NR 140 Indicator Parameters have been established for this site. For more information see “Indicator Parameter – Preventive Action Limits” in the Standard Requirements section.

PALs are not calculated for Depth to Groundwater nor Groundwater Elevation.

### 4.1.2 Groundwater Monitoring System for Sites 007 - 014

**Location of Monitoring System:** Spray irrigation site 007 is about 1.4 miles West of the Cambria plant. Sites 008 - 014 are located around the periphery of site 007.

**Wells to be Monitored:** 821 (A-1), 823 (A-3), 833 (A-2R)

**Required Monitoring:** Grab samples shall be collected from each well to be monitored per the frequency shown in the table below, except that monthly grab samples shall be collected from each new well during the first 3 months after well installation. The grab samples shall be analyzed for the parameters specified in the table below.

PARAMETER	UNITS	PREVENTIVE ACTION LIMIT	ENFORCEMENT STANDARD	FREQUENCY
Groundwater Elevation	feet	*****	N/A	Quarterly
Depth To Groundwater	feet	*****	N/A	Quarterly
Chloride Dissolved	feet MSL	*****	N/A	Quarterly
Nitrogen, Ammonia Dissolved	mg/L	*****	N/A	Quarterly
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	*****	N/A	Quarterly
Nitrogen, Organic Dissolved	mg/L	*****	N/A	Quarterly
pH Field	mg/L	*****	N/A	Quarterly
COD, Filtered	mg/L	*****	N/A	Quarterly
Solids, Total Dissolved	mg/L	*****	N/A	Quarterly

**Well Used To Calculate Preventive Action Limits (PALs):** 821 (A-1)

PALs listed in the table below have been calculated based on background groundwater quality data from this designated well. Groundwater contaminant concentrations shall be minimized and PALs met in groundwater monitoring wells to the extent it is technically and economically feasible.

**Compliance Well(s) for Enforcement Standards (ESs):** None

Enforcement standards are to be met in groundwater located beyond the 250 foot design management zone, or beyond the property boundary, whichever is closer to the land treatment system. See the Standard Requirements section of this permit for additional conditions related to exceedance of groundwater standards

PARAMETER	UNITS	PAL	ES
Nitrogen, Nitrite + Nitrate (as N)	mg/L	15.6 (ACL)	15.6 (ACL)

PARAMETER	UNITS	PAL	ES
Dissolved			
Chloride Dissolved	mg/L	125	250
pH Field	su	6.3 – 8.3	N/A
Nitrogen, Ammonia Dissolved	mg/L	0.97	9.7
Organic Nitrogen Dissolved	mg/L	2.2	N/A
COD, Filtered	mg/L	34	N/A
Solids, Total Dissolved	mg/L	650	N/A

#### 4.1.3 Groundwater Monitoring System for Sites 005/006

**Location of Monitoring System:** Spray irrigation sites 005 & 006

**Wells to be Monitored:** 815 (MW-15), 834 (MW-16R), 817 (MW-17)

**Required Monitoring:** Grab samples shall be collected from each well to be monitored per the frequency shown in the table below, except that monthly grab samples shall be collected from each new well during the first 3 months after well installation. The grab samples shall be analyzed for the parameters specified in the table below.

PARAMETER	UNITS	PREVENTIVE ACTION LIMIT	ENFORCEMENT STANDARD	FREQUENCY
Groundwater Elevation	feet	*****	N/A	Quarterly
Depth To Groundwater	feet	*****	N/A	Quarterly
Chloride Dissolved	mg/L	*****	N/A	Quarterly
Nitrogen, Ammonia Dissolved	mg/L	*****	N/A	Quarterly
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	*****	N/A	Quarterly
Nitrogen, Organic Dissolved	mg/L	*****	N/A	Quarterly
pH Lab	su	*****	N/A	Quarterly
COD, Filtered	mg/L	*****	N/A	Quarterly
Solids, Total Dissolved	mg/L	*****	N/A	Quarterly

**Well Used To Calculate Preventive Action Limits (PALs):** 815 (MW-15)

PALs listed in the table below have been calculated based on background groundwater quality data from this designated well. Groundwater contaminant concentrations shall be minimized and PALs met in groundwater monitoring wells to the extent it is technically and economically feasible.

**Compliance Well(s) for Enforcement Standards (ESs):** None

Enforcement standards are to be met in groundwater located beyond the 250 foot design management zone, or beyond the property boundary, whichever is closer to the land treatment system. See the Standard Requirements section of this permit for additional conditions related to exceedance of groundwater standards.

PARAMETER	UNITS	PAL	ES
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	2.6 (ACL)	10
Chloride Dissolved	mg/L	125	250
pH Field	su	6.2 – 8.2	N/A
Nitrogen, Ammonia Dissolved	mg/L	0.97	9.7

PARAMETER	UNITS	PAL	ES
Organic Nitrogen Dissolved	mg/L	2.2	N/A
COD, Filtered	mg/L	36	N/A
Solids, Total Dissolved	mg/L	990	N/A

#### 4.1.4 Groundwater Monitoring System for Site 004

**Location of Monitoring System:** Spray irrigation

**Wells to be Monitored:** 802 (MW-2), 805 (MW-5)

**Required Monitoring:** Grab samples shall be collected from each well to be monitored per the frequency shown in the table below, except that monthly grab samples shall be collected from each new well during the first 3 months after well installation. The grab samples shall be analyzed for the parameters specified in the table below.

PARAMETER	UNITS	PREVENTIVE ACTION LIMIT	ENFORCEMENT STANDARD	FREQUENCY
Groundwater Elevation	feet	*****	N/A	Quarterly
Depth To Groundwater	feet	*****	N/A	Quarterly
Chloride Dissolved	mg/L	*****	N/A	Quarterly
Nitrogen, Ammonia Dissolved	mg/L	*****	N/A	Quarterly
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	*****	N/A	Quarterly
Nitrogen, Organic Dissolved	mg/L	*****	N/A	Quarterly
pH Field	su	*****	N/A	Quarterly
COD, Filtered	mg/L	*****	N/A	Quarterly
Solids, Total Dissolved	mg/L	*****	N/A	Quarterly

**Well Used To Calculate Preventive Action Limits (PALs):** 802 (MW-2)

PALs listed in the table below have been calculated based on background groundwater quality data from this designated well. Groundwater contaminant concentrations shall be minimized and PALs met in groundwater monitoring wells to the extent it is technically and economically feasible.

**Compliance Well(s) for Enforcement Standards (ESs):** None

Enforcement standards are to be met in groundwater located beyond the 250 foot design management zone, or beyond the property boundary, whichever is closer to the land treatment system. See the Standard Requirements section of this permit for additional conditions related to exceedance of groundwater standards.

PARAMETER	UNITS	PAL	ES
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	3.2 (ACL)	10
Chloride Dissolved	mg/L	125	250
pH Field	su	6.1 – 8.1	N/A
Nitrogen, Ammonia Dissolved	mg/L	0.97	9.7
Organic Nitrogen Dissolved	mg/L	2.3	N/A
COD, Filtered	mg/L	34	N/A
Solids, Total Dissolved	mg/L	600	N/A

#### 4.1.5 Groundwater Monitoring System for New SI sites

**Location of Monitoring System:** Hahn field

**Wells to be Monitored:** 835 (HMW-1), 840 (HMW-6), 841 (HMW-7), 842 (HMW-8), 843 (HMW-2R)

**Required Monitoring:** Grab samples shall be collected from each well to be monitored per the frequency shown in the table below, except that monthly grab samples shall be collected from each new well during the first 3 months after well installation. The grab samples shall be analyzed for the parameters specified in the table below.

PARAMETER	UNITS	PREVENTIVE ACTION LIMIT	ENFORCEMENT STANDARD	FREQUENCY
Groundwater Elevation	feet MSL	*****	N/A	Quarterly
Depth To Groundwater	feet	*****	N/A	Quarterly
Chloride Dissolved	mg/L	*****	N/A	Quarterly
Nitrogen, Ammonia Dissolved	mg/L	*****	N/A	Quarterly
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	*****	N/A	Quarterly
Nitrogen, Organic Dissolved	mg/L	*****	N/A	Quarterly
pH Field	su	*****	N/A	Quarterly
COD, Filtered	mg/L	*****	N/A	Quarterly
Solids, Total Dissolved	mg/L	*****	N/A	Quarterly

**Well Used To Calculate Preventive Action Limits (PALs):** Insufficient data.

PALs listed in the table below have been calculated based on background groundwater quality data from this designated well. Groundwater contaminant concentrations shall be minimized and PALs met in groundwater monitoring wells to the extent it is technically and economically feasible.

**Compliance Well(s) for Enforcement Standards (ESs):** Insufficient data.

Enforcement standards are to be met in groundwater located beyond the 250 foot design management zone, or beyond the property boundary, whichever is closer to the land treatment system. See the Standard Requirements section of this permit for additional conditions related to exceedance of groundwater standards.

PARAMETER	UNITS	PAL	ES	SOURCE
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	2	10	Table 1, NR 140
Chloride Dissolved	mg/L	125	250	Table 2, NR 140
Nitrogen, Ammonia Dissolved	mg/L	0.97	9.7	Table 1, NR 140

## 5 Land Application Requirements

### 5.1 Sampling Point(s)

The discharge(s) shall be limited to land application of the waste type(s) designated for the listed sampling point(s) on Department approved land spreading sites or by hauling to another facility.

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)
010	The permittee's vegetable by-product solids are hauled to another facility. The permittee is required to submit form 3400-52 'Other Methods of Disposal or Distribution Report' by January 31 following each year the vegetable by-product solids are hauled off site.
014	Sludge composed of settlings from Industrial process wastewater. This includes sludge from the wastewater lagoon and the wastewater holding tank.

### 5.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

#### 5.2.1 Sampling Point (Outfall) 010 - vegetable by-product solids

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		tons/day	Daily	Total Daily	
Solids, Total		Percent	Annual	Grab	
Nitrogen, Total Kjeldahl		Percent	Annual	Grab	

Daily Log – Monitoring Requirements and Limitations				
All discharge and monitoring activity shall be documented on log sheets. Originals of the log sheets shall be kept by the permittee as described under "Records Retention" in the Standard Requirements section, and if requested, made available to the Department.				
Parameters	Limit	Units	Sample Frequency	Sample Type
DNR Site Number(s)	-	Number	Daily	Log
Acres Applied	-	Acres	Daily	Log
Application Rate	-	Tons/Acre/Day	Daily	Calculated

<b>Annual Report – Summary of Monitoring Requirements and Limitations</b> The Annual Report is due by January 31 <sup>st</sup> of each year for the previous calendar year. See the ‘Annual Land Application Report’ subsection in Standard Requirements.				
Parameters	Limit	Units	Reporting Frequency	Sample Type
DNR Site Number(s)	-	Number	-	-
Acres Land Applied	-	Acres	Annual	-
Total Amount Per Site	-	Tons	Annual	Total Annual
Total Kjeldahl Nitrogen per Site	165, or alternate approved in writing	Pounds/Acre/Year	Annual	Calculated

### 5.2.1.1 Annual Site Nitrogen Loading

For details on nitrogen loading requirements, including approval of an alternate nitrogen pounds/acre/year site loading, see the “Nitrogen Requirements for Liquid Wastes, By-Product Solids and Sludges” paragraph in the Standard Requirements section of this permit.

### 5.2.1.2 Sampling

Representative samples shall be collected of the byproduct solids to be land applied. When the byproduct solids are large pieces, a large sample should be collected and ground to a homogenous slurry for analysis.

### 5.2.2 Sampling Point (Outfall) 014 - Wastewater Settling Sludge

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Hydraulic Application Rate		tons/day	Annual	Grab	
Solids, Total		Percent	Annual	Grab	
Chloride		Percent	Annual	Grab	
Nitrogen, Total Kjeldahl		Percent	Annual	Grab	
Phosphorus, Total		Percent	Annual	Grab	
Nitrogen, Ammonia (NH <sub>3</sub> -N) Total		Percent	Annual	Grab	
Nitrogen, Organic Total		Percent	Annual	Grab	
Potassium, Total Recoverable		Percent	Annual	Grab	
pH Field		su	Annual	Grab	
Lead Dry Wt		mg/kg	Annual	Grab	
Zinc Dry Wt		mg/kg	Annual	Grab	
Copper Dry Wt		mg/kg	Annual	Grab	
Nickel Dry Wt		mg/kg	Annual	Grab	
Cadmium Dry Wt		mg/kg	Annual	Grab	

<b>Daily Log – Monitoring Requirements and Limitations</b> All discharge and monitoring activity shall be documented on log sheets. Originals of the log sheets shall be kept by the permittee as described under “Records Retention” in the Standard Requirements section, and if requested, made available to the Department.				
Parameters	Limit	Units	Sample Frequency	Sample Type
DNR Site Number(s)	-	Number	Daily	Log
Acres Applied	-	Acres	Daily	Log
Application Rate	-	Gal/Acre/Day	Daily	Calculated

<b>Annual Report – Summary of Monitoring Requirements and Limitations</b> The Annual Report is due by January 31 <sup>st</sup> of each year for the previous calendar year. See the ‘Annual Land Application Report’ subsection in Standard Requirements.				
Parameters	Limit	Units	Reporting Frequency	Sample Type
DNR Site Number(s)	-	Number	-	-
Acres Land Applied	-	Acres	Annual	-
Total Volume Per Site	-	Gallons	Annual	Total Annual
Total Kjeldahl Nitrogen per Site	165, or alternate approved in writing	Pounds/Acre/Year	Annual	Calculated
Total Chloride per Site	340	Pounds/Acre per 2 Years	Annual	Calculated

#### 5.2.2.1 Annual Site Nitrogen Loading

For details on nitrogen loading requirements, including approval of an alternate nitrogen pounds/acre/year site loading, see the “Nitrogen Requirements for Liquid Wastes, By-Product Solids and Sludges” paragraph in the Standard Requirements section of this permit.

#### 5.2.2.2 Biennial Site Chloride Loading

For details on chloride requirements see the “Chloride Requirements for Liquid Wastes and By-Product Solids” paragraph in the Standard Requirements section of this permit.

#### 5.2.2.3 Report Landspreading of Sludge Only When Used

The monitoring listed in the above table is only required if the permittee discharges from an outfall within the calendar year. Parameters with a frequency of annual must be reported if the permittee discharges from an outfall at any time during a calendar year.

## 6 Schedules

### 6.1 Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus

The permittee shall comply with the WQBELs for Phosphorus as specified. No later than 14 days following each compliance date, the permittee shall notify the Department in writing of its compliance or noncompliance. If a submittal is required, a timely submittal fulfills the notification requirement.

Required Action	Due Date
<b>Final Plans and Specifications:</b> Unless the permit has been modified, revoked and reissued, or reissued to include Adaptive Management or Water Quality Trading measures or to include a revised schedule based on factors in s. NR 217.17, Wis. Adm. Code, the permittee shall submit final construction plans to the Department for approval pursuant to s. 281.41, Stats., specifying treatment plant upgrades that must be constructed to achieve compliance with final phosphorus WQBELs, and a schedule for completing construction of the upgrades by the complete construction date specified below. (Note: Permit modification, revocation and reissuance, and reissuance are subject to s. 283.53(2), Stats.)  Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	12/31/2019
<b>Treatment Plant Upgrade to Meet WQBELs:</b> The permittee shall initiate construction of the upgrades. The permittee shall obtain approval of the final construction plans and schedule from the Department pursuant to s. 281.41, Stats. Upon approval of the final construction plans and schedule by the Department pursuant to s. 281.41, Stats., the permittee shall construct the treatment plant upgrades in accordance with the approved plans and specifications. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	03/31/2020
<b>Construction Upgrade Progress Report #1:</b> The permittee shall submit a progress report on construction upgrades. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	03/31/2021
<b>Construction Upgrade Progress Report #2:</b> The permittee shall submit a progress report on construction upgrades. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	03/31/2022
<b>Complete Construction:</b> The permittee shall complete construction of wastewater treatment system upgrades. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	12/31/2022
<b>Achieve Compliance:</b> The permittee shall achieve compliance with final phosphorus WQBELs. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	01/01/2023



## 7 Standard Requirements

**NR 205, Wisconsin Administrative Code (Conditions for Industrial Dischargers):** The conditions in ss. NR 205.07(1) and NR 205.07(3), Wis. Adm. Code, are included by reference in this permit. The permittee shall comply with all of these requirements. Some of these requirements are outlined in the Standard Requirements section of this permit. Requirements not specifically outlined in the Standard Requirement section of this permit can be found in ss. NR 205.07(1) and NR 205.07(3).

### 7.1 Reporting and Monitoring Requirements

#### 7.1.1 Monitoring Results

Monitoring results obtained during the previous month shall be summarized and reported on a Department Wastewater Discharge Monitoring Report. The report may require reporting of any or all of the information specified below under 'Recording of Results'. This report is to be returned to the Department no later than the date indicated on the form. A copy of the Wastewater Discharge Monitoring Report Form or an electronic file of the report shall be retained by the permittee.

Monitoring results shall be reported on an electronic discharge monitoring report (eDMR). The eDMR shall be certified electronically by a responsible executive or officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

If the permittee monitors any pollutant more frequently than required by this permit, the results of such monitoring shall be included on the Wastewater Discharge Monitoring Report.

The permittee shall comply with all limits for each parameter regardless of monitoring frequency. For example, monthly, weekly, and/or daily limits shall be met even with monthly monitoring. The permittee may monitor more frequently than required for any parameter.

#### 7.1.2 Sampling and Testing Procedures

Sampling and laboratory testing procedures shall be performed in accordance with Chapters NR 218 and NR 219, Wis. Adm. Code and shall be performed by a laboratory certified or registered in accordance with the requirements of ch. NR 149, Wis. Adm. Code. Groundwater sample collection and analysis shall be performed in accordance with ch. NR 140, Wis. Adm. Code. The analytical methodologies used shall enable the laboratory to quantitate all substances for which monitoring is required at levels below the effluent limitation. If the required level cannot be met by any of the methods available in NR 219, Wis. Adm. Code, then the method with the lowest limit of detection shall be selected. Additional test procedures may be specified in this permit.

#### 7.1.3 Recording of Results

The permittee shall maintain records which provide the following information for each effluent measurement or sample taken:

- the date, exact place, method and time of sampling or measurements;
- the individual who performed the sampling or measurements;
- the date the analysis was performed;
- the individual who performed the analysis;
- the analytical techniques or methods used; and
- the results of the analysis.

#### **7.1.4 Reporting of Monitoring Results**

The permittee shall use the following conventions when reporting effluent monitoring results:

- Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 0.1 mg/L, report the pollutant concentration as < 0.1 mg/L.
- Pollutant concentrations equal to or greater than the limit of detection, but less than the limit of quantitation, shall be reported and the limit of quantitation shall be specified.
- For purposes of calculating NR 101 fees, the 2 mg/l lower reporting limits for BOD<sub>5</sub> and Total Suspended Solids shall be considered to be limits of quantitation
- For the purposes of reporting a calculated result, average or a mass discharge value, the permittee may substitute a 0 (zero) for any pollutant concentration that is less than the limit of detection. However, if the effluent limitation is less than the limit of detection, the department may substitute a value other than zero for results less than the limit of detection, after considering the number of monitoring results that are greater than the limit of detection and if warranted when applying appropriate statistical techniques.

#### **7.1.5 Records Retention**

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings or electronic data records for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit for a period of at least 3 years from the date of the sample, measurement, report or application, except for sludge management forms and records, which shall be kept for a period of at least 5 years.

#### **7.1.6 Other Information**

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or correct information to the Department.

#### **7.1.7 Reporting Requirements – Alterations or Additions**

The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is only required when:

- The alteration or addition to the permitted facility may meet one of the criteria for determining whether a facility is a new source.
- The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification requirement applies to pollutants which are not subject to effluent limitations in the existing permit.
- The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use of disposal sites not reported during the permit application process nor reported pursuant to an approved land application plan. Additional sites may not be used for the land application of sludge until department approval is received.

### **7.2 System Operating Requirements**

### 7.2.1 Noncompliance Reporting

The permittee shall report the following types of noncompliance by a telephone call to the Department's regional office within 24 hours after becoming aware of the noncompliance:

- any noncompliance which may endanger health or the environment;
- any violation of an effluent limitation resulting from a bypass;
- any violation of an effluent limitation resulting from an upset; and
- any violation of a maximum discharge limitation for any of the pollutants listed by the Department in the permit, either for effluent or sludge.

A written report describing the noncompliance shall also be submitted to the Department as directed at the end of this permit within 5 days after the permittee becomes aware of the noncompliance. On a case-by-case basis, the Department may waive the requirement for submittal of a written report within 5 days and instruct the permittee to submit the written report with the next regularly scheduled monitoring report. In either case, the written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

A scheduled bypass approved by the Department under the 'Scheduled Bypass' section of this permit shall not be subject to the reporting required under this section.

**NOTE:** Section 292.11(2)(a), Wisconsin Statutes, requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to notify the Department of Natural Resources **immediately** of any discharge not authorized by the permit. **The discharge of a hazardous substance that is not authorized by this permit or that violates this permit may be a hazardous substance spill. To report a hazardous substance spill, call DNR's 24-hour HOTLINE at 1-800-943-0003.**

### 7.2.2 Bypass

Except for a controlled diversion as provided in the 'Controlled Diversions' section of this permit, any bypass is prohibited and the Department may take enforcement action against a permittee for such occurrences under s. 283.89, Wis. Stats. The Department may approve a bypass if the permittee demonstrates all the following conditions apply:

- The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities or adequate back-up equipment, retention of untreated wastes, reduction of inflow and infiltration, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance. When evaluating feasibility of alternatives, the department may consider factors such as technical achievability, costs and affordability of implementation and risks to public health, the environment and, where the permittee is a municipality, the welfare of the community served; and
- The bypass was reported in accordance with the 'Noncompliance Reporting' section of this permit.

### 7.2.3 Scheduled Bypass

Whenever the permittee anticipates the need to bypass for purposes of efficient operations and maintenance and the permittee may not meet the conditions for controlled diversions in the 'Controlled Diversions' section of this permit, the permittee shall obtain prior written approval from the Department for the scheduled bypass. A permittee's written request for Department approval of a scheduled bypass shall demonstrate that the conditions for unscheduled bypassing are met and include the proposed date and reason for the bypass, estimated volume and duration of the bypass, alternatives to bypassing and measures to mitigate environmental harm caused by the bypass. The department may require the permittee to provide public notification for a scheduled bypass if it is determined there is significant

public interest in the proposed action and may recommend mitigation measures to minimize the impact of such bypass.

#### **7.2.4 Controlled Diversions**

Controlled diversions are allowed only when necessary for essential maintenance to assure efficient operation provided the following requirements are met:

- Effluent from the wastewater treatment facility shall meet the effluent limitations established in the permit. Wastewater that is diverted around a treatment unit or treatment process during a controlled diversion shall be recombined with wastewater that is not diverted prior to the effluent sampling location and prior to effluent discharge;
- A controlled diversion may not occur during periods of excessive flow or other abnormal wastewater characteristics;
- A controlled diversion may not result in a wastewater treatment facility overflow; and
- All instances of controlled diversions shall be documented in wastewater treatment facility records and such records shall be available to the department on request.

#### **7.2.5 Proper Operation and Maintenance**

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training as required in ch. NR 114, Wis. Adm. Code, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

#### **7.2.6 Operator Certification**

The wastewater treatment facility shall be under the direct supervision of a state certified operator. In accordance with s. NR 114.53, Wis. Adm. Code, every WPDES permitted treatment plant shall have a designated operator-in-charge holding a current and valid certificate. The designated operator-in-charge shall be certified at the level and in all subclasses of the treatment plant, except laboratory. Treatment plant owners shall notify the department of any changes in the operator-in-charge within 30 days. Note that s. NR 114.52(22), Wis. Adm. Code, lists types of facilities that are excluded from operator certification requirements (i.e. private sewage systems, pretreatment facilities discharging to public sewers, industrial wastewater treatment that consists solely of land disposal, agricultural digesters and concentrated aquatic production facilities with no biological treatment).

#### **7.2.7 Spill Reporting**

The permittee shall notify the Department in accordance with ch. NR 706 (formerly NR 158), Wis. Adm. Code, in the event that a spill or accidental release of any material or substance results in the discharge of pollutants to the waters of the state at a rate or concentration greater than the effluent limitations established in this permit, or the spill or accidental release of the material is unregulated in this permit, unless the spill or release of pollutants has been reported to the Department in accordance with s. NR 205.07 (1)(s), Wis. Adm. Code.

#### **7.2.8 Planned Changes**

In accordance with ss. 283.31(4)(b) and 283.59, Stats., the permittee shall report to the Department any facility expansion, production increase or process modifications which will result in new, different or increased discharges of pollutants. The report shall either be a new permit application, or if the new discharge will not violate the effluent limitations of this permit, a written notice of the new, different or increased discharge. The notice shall contain a description of the new activities, an estimate of the new, different or increased discharge of pollutants and a description of the effect of the new or increased discharge on existing waste treatment facilities. Following receipt of

this report, the Department may modify this permit to specify and limit any pollutants not previously regulated in the permit.

### 7.2.9 Duty to Halt or Reduce Activity

Upon failure or impairment of treatment facility operation, the permittee shall, to the extent necessary to maintain compliance with its permit, curtail production or wastewater discharges or both until the treatment facility operations are restored or an alternative method of treatment is provided.

## 7.3 Surface Water Requirements

### 7.3.1 Permittee-Determined Limit of Quantitation Incorporated into this Permit

For pollutants with water quality-based effluent limits below the Limit of Quantitation (LOQ) in this permit, the LOQ calculated by the permittee and reported on the Discharge Monitoring Reports (DMRs) is incorporated by reference into this permit. The LOQ shall be reported on the DMRs, shall be the lowest quantifiable level practicable, and shall be no greater than the minimum level (ML) specified in or approved under 40 CFR Part 136 for the pollutant at the time this permit was issued, unless this permit specifies a higher LOQ.

### 7.3.2 Appropriate Formulas for Effluent Calculations

The permittee shall use the following formulas for calculating effluent results to determine compliance with average concentration limits and mass limits and total load limits:

**Weekly/Monthly/Six-Month/Annual Average Concentration** = the sum of all daily results for that week/month/six-month/year, divided by the number of results during that time period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April.]

**Weekly Average Mass Discharge (lbs/day):** Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the week.

**Monthly Average Mass Discharge (lbs/day):** Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the month.

**Six-Month Average Mass Discharge (lbs/day):** Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the six-month period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April.]

**Annual Average Mass Discharge (lbs/day):** Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the entire year.

**Total Monthly Discharge:** = monthly average concentration (mg/L) x total flow for the month (MG/month) x 8.34.

**Total Annual Discharge:** = sum of total monthly discharges for the calendar year.

**12-Month Rolling Sum of Total Monthly Discharge:** = the sum of the most recent 12 consecutive months of Total Monthly Discharges.

### 7.3.3 Effluent Temperature Requirements

**Weekly Average Temperature** – The permittee shall use the following formula for calculating effluent results to determine compliance with the weekly average temperature limit (as applicable): Weekly Average Temperature = the sum of all daily maximum results for that week divided by the number of daily maximum results during that time period.

**Cold Shock Standard** – Water temperatures of the discharge shall be controlled in a manner as to protect fish and aquatic life uses from the deleterious effects of cold shock. ‘Cold Shock’ means exposure of aquatic organisms to a rapid decrease in temperature and a sustained exposure to low temperature that induces abnormal behavior or physiological performance and may lead to death.

**Rate of Temperature Change Standard** – Temperature of a water of the state or discharge to a water of the state may not be artificially raised or lowered at such a rate that it causes detrimental health or reproductive effects to fish or aquatic life of the water of the state.

### 7.3.4 Visible Foam or Floating Solids

There shall be no discharge of floating solids or visible foam in other than trace amounts.

### 7.3.5 Surface Water Uses and Criteria

In accordance with NR 102.04, Wis. Adm. Code, surface water uses and criteria are established to govern water management decisions. Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other activities shall be controlled so that all surface waters including the mixing zone meet the following conditions at all times and under all flow and water level conditions:

- a) Substances that will cause objectionable deposits on the shore or in the bed of a body of water, shall not be present in such amounts as to interfere with public rights in waters of the state.
- b) Floating or submerged debris, oil, scum or other material shall not be present in such amounts as to interfere with public rights in waters of the state.
- c) Materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in waters of the state.
- d) Substances in concentrations or in combinations which are toxic or harmful to humans shall not be present in amounts found to be of public health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant or aquatic life.

### 7.3.6 Compliance with Phosphorus Limitation

Compliance with the concentration limitation for phosphorus shall be determined as a rolling twelve-month average and shall be calculated as follows:

First, determine the pounds of phosphorus for an individual month by multiplying the average of all the concentration values for phosphorus (in mg/L) for that month by the total flow for the month in Million Gallons times the conversion factor of 8.34.

Then, the monthly pounds of phosphorus determined in this manner shall be summed for the most recent 12 months and inserted into the numerator of the following equation.

$$\text{Average concentration of P in mg/L} = \frac{\text{Total lbs of P discharged (most recent 12 months)}}{\text{Total flow in MG (most recent 12 months) X 8.34}}$$

The compliance calculation shall be performed each month with a reported discharge volume after substituting data from the most recent month(s) for the oldest month(s). A calculated value in excess of the concentration limitation will be considered equivalent to a violation of a monthly average.

### 7.3.7 Whole Effluent Toxicity (WET) Monitoring Requirements

In order to determine the potential impact of the discharge on aquatic organisms, static-renewal toxicity tests shall be performed on the effluent in accordance with the procedures specified in the "*State of Wisconsin Aquatic Life Toxicity Testing Methods Manual, 2<sup>nd</sup> Edition*" (PUB-WT-797, November 2004) as required by NR 219.04, Table A, Wis. Adm. Code). All of the WET tests required in this permit, including any required retests, shall be conducted on the *Ceriodaphnia dubia* and fathead minnow species. Receiving water samples shall not be collected from any point in contact with the permittee's mixing zone and every attempt shall be made to avoid contact with any other discharge's mixing zone.

### 7.3.8 Whole Effluent Toxicity (WET) Identification and Reduction

Within 60 days of a retest which showed positive results, the permittee shall submit a written report to the Biomonitoring Coordinator, Bureau of Water Quality, 101 S. Webster St., PO Box 7921, Madison, WI 53707-7921, which details the following:

- A description of actions the permittee has taken or will take to remove toxicity and to prevent the recurrence of toxicity;
- A description of toxicity reduction evaluation (TRE) investigations that have been or will be done to identify potential sources of toxicity, including some or all of the following actions:
  - (a) Evaluate the performance of the treatment system to identify deficiencies contributing to effluent toxicity (e.g., operational problems, chemical additives, incomplete treatment)
  - (b) Identify the compound(s) causing toxicity
  - (c) Trace the compound(s) causing toxicity to their sources (e.g., industrial, commercial, domestic)
  - (d) Evaluate, select, and implement methods or technologies to control effluent toxicity (e.g., in-plant or pretreatment controls, source reduction or removal)
- Where corrective actions including a TRE have not been completed, an expeditious schedule under which corrective actions will be implemented;
- If no actions have been taken, the reason for not taking action.

The permittee may also request approval from the Department to postpone additional retests in order to investigate the source(s) of toxicity. Postponed retests must be completed after toxicity is believed to have been removed.

## 7.4 Land Treatment Requirements for Industrial Discharges

**NR 214, Wisconsin Administrative Code:** The requirements of this section are based on ss. NR 214.12-16, Wis. Adm. Code, and apply to wastewater discharges to designed and constructed absorption pond, ridge & furrow, spray irrigation, overland flow and subsurface absorption treatment systems.

### 7.4.1 Formulas for Land Treatment Calculations

The permittee shall use the following formulas for land treatment calculations, unless an alternate calculation method is approved by the Department in the Land Treatment Management Plan.

#### 7.4.1.1 Monthly Average Hydraulic Application Rate

Determine the monthly average hydraulic application rate (in gal/acre/day) for each outfall by calculating the total gallons of wastewater applied onto the site for the month, dividing that total by the number of wetted

acres loaded during the month, and then dividing this resulting value by the number of days in the month. Enter this calculated monthly value on the Discharge Monitoring Report form in the box for the last day of the month, in the "Hydraulic Application Rate" column.

#### **7.4.1.2 Annual Total Nitrogen per Cell or per Zone**

$$\frac{(\text{annual ave. concentration in mg/L}) (\text{tot. annual flow in million gallons per cell or zone}) (8.34)}{\text{acreage of cell or zone}} = \text{lbs/ac/yr}$$

#### **7.4.1.3 Annual Total Chloride per Cell or per Zone**

$$\frac{(\text{annual ave. concentration in mg/L}) (\text{tot. annual flow in million gallons per cell or zone}) (8.34)}{\text{acreage of cell or zone}} = \text{lbs/ac/yr}$$

### **7.4.2 Land Treatment Annual Report**

Annual Land Treatment Reports are due by January 31<sup>st</sup> of each year for the previous calendar year.

### **7.4.3 Chloride Requirements for Land Treatment Systems**

Since chloride is not significantly treated by the soil, the chloride level of the wastewater treated on land shall be minimized to the extent that is technically and economically feasible. The goal is to protect groundwater quality and prevent exceedance of the 125 mg/L groundwater preventive action limit.

### **7.4.4 Nitrogen Loading Requirements for Spray Irrigation**

The total annual nitrogen loading (pounds/acre/year) to the wastewater spray irrigation acreage shall not exceed the limitation contained in the land treatment annual report table of this permit. Determination of the annual pounds of nitrogen applied to the land treatment system shall include the nitrogen supplied by the wastewater, organic nitrogen becoming available to plants and any supplemental fertilizers used. The Department may approve (in writing) an alternative nitrogen loading limit in a spray irrigation management plan based on the annual nitrogen needs of the cover crop and the permittee's demonstration of nitrogen losses for the site as specified in s. NR 214.14(3)(c), Wis. Adm. Code.

### **7.4.5 Ponding**

The intensity of wastewater spray shall be limited to prevent ponding, except for temporary conditions following rainfall events.

### **7.4.6 Runoff**

The volume of wastewater sprayed shall be limited to prevent runoff of any wastewater mixed with rainwater as specified in s. NR 214.14(3)(f), Wis. Adm. Code. If wastewater runoff occurs, spray irrigation shall cease immediately.

### **7.4.7 Seasonal Irrigation Restriction**

Discharge to the spray irrigation field shall occur only between May 1 and October 31 each year, unless otherwise specified in the approved Land Treatment Management Plan.

### **7.4.8 Irrigation Management Plan**

The spray irrigation treatment system shall be operated and managed in accordance with a Department approved management plan. The management plan shall be consistent with the conditions listed in this permit and s. NR



214.14(5), Wis. Adm. Code, which requires a load/rest cycle, cover crop removal, annual soil testing, etc. If operational changes are needed, the management plan shall be amended and such plan shall be submitted to the Department for approval prior to implementing such changes.

## **7.5 Groundwater Standard Requirements**

### **7.5.1 Application of NR 140 to Substances Discharged**

This permit does not authorize the permittee to discharge any substance in a concentration which would cause an applicable groundwater standard of ch. NR 140, Wis. Adm. Code, to be exceeded. The Department may seek a response under NR 140 if the permittee's discharge causes exceedance of an applicable groundwater standard for any substance, including substances not specifically limited or monitored under this permit.

### **7.5.2 Groundwater Sampling**

Groundwater sampling shall be performed in accordance with procedures contained in the WDNR publications, Groundwater Sampling Desk Reference (PUBL-DG-037-96) and Groundwater Sampling Field Manual (PUBL-DG-038-96).

### **7.5.3 Indicator Parameter - Preventive Action Limits**

Preventive action limits for indicator parameters are calculated using a minimum of eight sample analysis results available from a representative background well in accordance with the procedures in s. NR 140.20, Wis. Adm. Code.

### **7.5.4 Groundwater Monitoring Forms**

Results of the groundwater analyses shall be summarized and reported on Groundwater Monitoring Forms. This report form is to be returned to the Department no later than the date indicated on the form. A copy of the groundwater monitoring form or an electronic file of the form shall be retained by the permittee. Groundwater monitoring results shall be reported on an electronic groundwater monitoring form and certified electronically via the 'eReport Certify' page by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

### **7.5.5 Appropriate Formulas for Groundwater**

Total Nitrogen = Total Kjeldahl Nitrogen (mg/L) + [NO<sub>2</sub> + NO<sub>3</sub>] Nitrogen (mg/L)

Organic Nitrogen (mg/L) = Total Kjeldahl Nitrogen (mg/L) - Ammonia Nitrogen (mg/L)

### **7.5.6 Reporting Depth to Groundwater**

Depth to groundwater shall be reported in feet, to the nearest 0.01 foot, below the top of the well casing. A report shall be on file with the Department stating the well casing top elevation in feet above mean sea level (MSL), to the nearest 0.01 foot, for each groundwater monitoring well.

### **7.5.7 Groundwater Elevation**

Groundwater elevations shall be calculated by subtracting the depth to groundwater measurement from the well casing top elevation and shall be reported in feet above mean sea level (MSL) to the nearest 0.01 foot.

### **7.5.8 Groundwater Grab Samples**

Grab samples shall be taken of the groundwater only after adequate removal or purging of standing water within the well casing has been performed. For those wells which will refill with water as fast as the water can be removed by bailing or pumping, four well volumes shall be removed prior to sample collection and analysis. For those wells which will not refill with water as fast as the water can be removed by bailing or pumping, the existing volume of water inside the well casing shall be removed and samples collected after the well has refilled to at least half the original volume in the well.

### **7.5.9 Filtering of Groundwater Samples**

All groundwater monitoring well samples shall be filtered prior to analysis, except for the portion used to measure pH or field specific conductance, which shall be done using an unfiltered sample. While in-field analysis is preferred for these two tests, laboratory analysis done within two hours of sample collection is acceptable. For the portion to be filtered, it is preferred that filtering be performed in the field immediately following sample collection. However, laboratory filtering is acceptable. Filtering shall be performed through a standard 0.45 micron filter.

### **7.5.10 Groundwater Data Log**

A data log shall be used to record the results of all field sampling and analysis events. This log shall include date of sampling event, groundwater sampler's name, well identification, depth from pipetop to water, depth from pipetop to well bottom, time of purging (start to end), volume of water purged, indication of whether the well was purged dry, time of sample withdrawal, and the following applicable field observations: pH, field conductivity, temperature, color, odor and turbidity, indication of whether field filtering was performed and time of filtering, indication of cap and lock replaced, and comments.

### **7.5.11 Notification of Attaining or Exceeding Groundwater Quality Standards**

The permittee shall notify the Department when monitoring results indicate that a Preventive Action Limit or Enforcement Standard has been attained or exceeded. This notification may be provided in the general remarks section of the groundwater monitoring form or by letter attached to the groundwater monitoring form. Any values reported as exceeding a groundwater standard shall be confirmed as being from a representative sample and as a correct laboratory analysis result.

### **7.5.12 Preventive Action Limit (PAL) Exceedance**

Analysis results (from the land treatment monitoring wells) that are less than this permit's PALs indicate that operation of the land treatment system is protective of groundwater quality. Substance concentrations that exhibit a trend over time of being greater than the PAL may indicate that additional technically and economically feasible actions are needed to reduce the discharge of the substance to the groundwater. In such a case, the Department may request an evaluation and response or propose a permit modification to require submittal of a groundwater evaluation report and implementation of a feasible response as specified in NR 140.24(1)(b), Wis. Adm. Code.

### **7.5.13 Enforcement Standard Exceedance Within the Design Management Zone**

Substance concentrations greater than this permit's enforcement standard (ES) in a permittee's monitoring well located within the property boundary and within the design management zone of the land treatment system may indicate that the groundwater concentration exceeds an ES outside of these boundaries. If the Department determines there is reasonable evidence that an ES is being attained or exceeded beyond the property boundary or beyond the design management zone, the Department may request an evaluation and response or propose a permit modification to require an evaluation report and appropriate response as specified in s. NR 140.26, Wis. Adm. Code.

#### **7.5.14 Enforcement Standard Exceedance Outside the Design Management Zone**

The permittee's land treatment system shall not cause the concentration of a substance in groundwater to attain or exceed this permit's enforcement standard at any point of present groundwater use, at any point beyond the property boundary, or at any point beyond the design management zone established under s. NR 140.22, Wis. Adm. Code. When this condition is not met, **the permittee shall, within 120 days following notification by the Department of the attainment or exceedance of an ES beyond the compliance boundary, submit a groundwater quality evaluation and response report** as specified in NR 140.26(1)(b), Wis. Adm. Code. The Department may propose modification of this permit to require the permittee to implement additional treatment or other actions as specified in s. NR 140.26, Wis. Adm. Code.

### **7.6 Land Application Requirements**

#### **7.6.1 General Sludge Management Information**

The General Sludge Management Form 3400-48 shall be completed and submitted prior to any significant sludge management changes.

#### **7.6.2 Land Application Characteristic Report**

The analytical results from testing of liquid wastes, by-product solids and sludges that are land applied shall be reported annually on the Characteristic Report Form 3400-49. The report form shall be submitted electronically no later than the date indicated on the form. Following submittal of the electronic Characteristic Report Form 3400-49, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

The permittee shall use the following convention when reporting sludge monitoring results: Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 1.0 mg/kg, report the pollutant concentration as < 1.0 mg/kg .

All sludge results shall be reported on a dry weight basis.

#### **7.6.3 Monitoring and Calculating PCB Concentrations in Sludge**

When sludge analysis for "PCB, Total Dry Wt" is required by this permit, the PCB concentration in the sludge shall be determined as follows.

Either congener-specific analysis or Aroclor analysis shall be used to determine the PCB concentration. The permittee may determine whether Aroclor or congener specific analysis is performed. Analyses shall be performed in accordance with the following provisions and Table EM in s. NR 219.04, Wis. Adm. Code.

- EPA Method 1668 may be used to test for all PCB congeners. If this method is employed, all PCB congeners shall be delineated. Non-detects shall be treated as zero. The values that are between the limit of detection and the limit of quantitation shall be used when calculating the total value of all congeners. All results shall be added together and the total PCB concentration by dry weight reported. **Note:** It is recognized that a number of the congeners will co-elute with others, so there will not be 209 results to sum.
- EPA Method 8082A shall be used for PCB-Aroclor analysis and may be used for congener specific analysis as well. If congener specific analysis is performed using Method 8082A, the list of congeners tested shall include at least congener numbers 5, 18, 31, 44, 52, 66, 87, 101, 110, 138, 141, 151, 153, 170, 180, 183, 187, and 206 plus any other additional congeners which might be reasonably expected to occur in the particular sample. For either type of analysis, the sample shall be extracted using the Soxhlet

extraction (EPA Method 3540C) (or the Soxhlet Dean-Stark modification) or the pressurized fluid extraction (EPA Method 3545A). If Aroclor analysis is performed using Method 8082A, clean up steps of the extract shall be performed as necessary to remove interference and to achieve as close to a limit of detection of 0.11 mg/kg as possible. Reporting protocol, consistent with s. NR 106.07(6)(e), should be as follows: If all Aroclors are less than the LOD, then the Total PCB Dry Wt result should be reported as less than the highest LOD. If a single Aroclor is detected then that is what should be reported for the Total PCB result. If multiple Aroclors are detected, they should be summed and reported as Total PCBs. If congener specific analysis is done using Method 8082A, clean up steps of the extract shall be performed as necessary to remove interference and to achieve as close to a limit of detection of 0.003 mg/kg as possible for each congener. If the aforementioned limits of detection cannot be achieved after using the appropriate clean up techniques, a reporting limit that is achievable for the Aroclors or each congener for the sample shall be determined. This reporting limit shall be reported and qualified indicating the presence of an interference. The lab conducting the analysis shall perform as many of the following methods as necessary to remove interference:

3620C – Florisil	3611B - Alumina
3640A - Gel Permeation	3660B - Sulfur Clean Up (using copper shot instead of powder)
3630C - Silica Gel	3665A - Sulfuric Acid Clean Up

#### **7.6.4 Annual Land Application Report**

The annual totals for the land application loadings of liquid wastes, by-product solids and sludges to field spreading sites shall be submitted electronically on the Annual Land Application Report Form 3400-55 by January 31, each year whether or not waste is land applied. Following submittal of the electronic Annual Land Application Report Form 3400-55, this form shall be certified electronically via the ‘eReport Certify’ page by a responsible executive officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The ‘eReport Certify’ page certifies that the electronic report form is true, accurate and complete.

#### **7.6.5 Other Methods of Disposal or Distribution Report**

The permittee shall submit electronically the Other Methods of Disposal or Distribution Report Form 3400-52 by January 31, each year whether or not waste is hauled to another facility, landfilled, incinerated, or stored in a manure pit. Following submittal of the electronic Report Form 3400-52, this form shall be certified electronically via the ‘eReport Certify’ page by a responsible executive officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The ‘eReport Certify’ page certifies that the electronic report form is true, accurate and complete.

#### **7.6.6 Land Application Site Approval**

The permittee is authorized to landspread permitted liquid wastes, by-product solids and sludges on sites approved in writing by the Department in accordance with ss. NR 214.17(2) and 214.18(2), Wis. Adm. Code. Any site use restrictions or granting of case-by-case exceptions shall be identified in the approval letter. If the permittee wishes to have approval for additional sites, application shall be made using Land Application Site Request Form 3400-053. Complete information shall be submitted about each site, including location maps and soil maps, any soil analyses results and other information showing that the site complies with all application requirements and permit conditions. Spreading on a site may commence upon receipt of Department approval. If an existing spreading site is found by the Department to be environmentally unacceptable, a written notice will be issued to withdraw approval of that site.

#### **7.6.7 Operating Requirements/Management Plan**

All land application sites used for treatment of liquid wastes, by-product solids and sludges shall be operated in accordance with a Department approved management plan. The management plan shall be consistent with the requirements of this permit, ss. NR 214.17 (3) and (6), and NR 214.18 (3) and (6), Wis. Adm. Code. If operational changes are needed, the land application management plan shall be amended by submitting a written request to the Department for approval. A land application management plan shall be submitted for approval at least 60 days prior to land application.

### 7.6.8 Chloride Requirements for Liquid Wastes and By-Product Solids

The total pounds of chloride applied shall be limited to 340 pounds per acre per 2 year period. Calculate the chloride loading as follows:

$$\text{Wet Weight Solids: } \frac{\text{lbs of solids} \times \% \text{solids} \times \% \text{chloride}}{\text{acres land applied} \times 100 \times 100} = \text{lbs chloride/acre}$$

$$\text{Liquid: } \frac{\text{mg/L chloride} \times (\text{millions of gallons}) \times 8.34}{\text{acres land applied}} = \text{lbs chloride/acre}$$

### 7.6.9 Nitrogen Requirements for Liquid Wastes and By-Product Solids and Sludges

NR 214.17(4) and NR 214.18(4) Wis. Adm. Code specify that the total pounds of nitrogen land applied per acre per year shall be limited to the nitrogen needs of the cover crop minus any other nitrogen added to the land application site, including fertilizer or manure. Nitrogen applied can be calculated on the basis of plant available nitrogen, as long as the release of nitrogen from the organic material is credited to future years. This permit requires that the Total Kjeldahl Nitrogen calendar year application amount shall not exceed 165 pounds per acre per year, except when alternate numerical nitrogen loading limits (consistent with the above sections of NR 214) are approved in writing via the Department's land application management plan approval. Calculate nitrogen loading as follows ("TKN" represents "Total Kjeldahl Nitrogen"):

$$\text{Wet Weight Solids and Sludges: } \frac{\text{lbs of solids} \times \% \text{solids} \times \% \text{TKN}}{\text{acres land applied} \times 100 \times 100} = \text{lbs TKN/acre}$$

$$\text{Liquid: } \frac{\text{mg/L TKN} \times (\text{millions of gallons}) \times 8.34}{\text{acres land applied}} = \text{lbs TKN/acre}$$

### 7.6.10 Ponding

The volume of liquid wastes land applied shall be limited to prevent ponding, except for temporary conditions following rainfall events. If ponding occurs all land application shall cease immediately. The permittee shall land apply only the liquid wastes that are permitted.

### 7.6.11 Runoff

The volume of liquid wastes land applied shall be limited to prevent runoff. If runoff occurs all land application shall cease immediately. The permittee shall land apply only the liquid wastes that are permitted.

### 7.6.12 Soil Incorporation Requirements

- Liquid Sludge Requirements: The Department may require that liquid sludge be incorporated into the soil on specific land application sites when necessary to prevent surface runoff or objectionable odors. Requirements and procedures for incorporation of liquid sludge, when such incorporation may be

necessary, shall be specified in the management plan or in specific site applications, subject to Department approval. The permittee shall comply with the requirements in the Department approved management plan, specific site-approval requirements and the terms and conditions of this permit.

- **Cake Sludge Requirements:** After land application, cake sludge shall be incorporated into the soil. The timing of such incorporation and other related requirements and procedures shall be specified in the management plan or in specific site applications, subject to Department approval. The permittee shall comply with the requirements in the Department approved management plan, specific site-approval requirements and the terms and conditions of this permit.
- **Liquid Wastewater Requirements:** The Department may require that liquid wastewater be incorporated or injected into the soil on specific land application sites when necessary to prevent surface runoff or objectionable odors. Requirements and procedures for injection or incorporation of liquid wastewater, when such injection or incorporation is necessary, shall be specified in the management plan or in specific site applications, subject to Department approval. The permittee shall comply with the requirements in the Department approved management plan, specific site-approval requirements and the terms and conditions of this permit.
- **By-Product Solids Requirements:** The Department may limit the volume of by-products solids that are landspread on a specific site when necessary to prevent surface runoff or leaching of contaminants to groundwater and objectionable odors. By-product solids shall, after application, be plowed, disced, or otherwise incorporated into the soil. Requirements and procedures for the incorporation of byproduct solids into the soil shall be specified in the management plan or in specific site applications, subject to Department approval. The permittee shall comply with the requirements in the Department approved management plan, specific site-approval requirements and the terms and conditions of this permit.

### **7.6.13 Field Stockpiles**

The permittee is encouraged to landspread the by-product solids or sludges as they are transported to the fields; but if it becomes necessary to stockpile solids in the fields, the stockpiles shall be spread within 72 hours or as specified in the approved management plan.

### **7.6.14 By-Product Storage Sites**

All sites used for storage of by-product solids shall be located such that surface water or groundwater pollution does not occur. Written Department approval is required prior to storage of more than 150 tons of by-product solids on a site at any one time.

### **7.6.15 Annual Inspections-Stacking Pads and Leachate Containment**

Stacking pads for more than 1200 tons of silage and all leachate containment facilities shall be inspected annually for cracks and shall be repaired as necessary to prevent leakage from the containment system. The inspection reports shall be available for inspection by Department personnel for a period of three years, and shall include at a minimum the following information:

- date and name of person(s) performing the inspection
- description of what the inspection consisted of
- details of what was discovered during the inspection
- recommendations for repair or maintenance
- details or repair completed

#### **7.6.16 Additional Requirements from ch. NR 214, Wis. Adm. Code**

The requirements of s. NR 214.17 (4)(c) [pathogen prohibition for human consumption crop fields], (4)(d)1 [no adverse soil effects], (4)(d)10 [allowable whey spreading rates], and (4)(e)1-3 [by-product solids spreading within agricultural practices and not cause contamination] for landspreading of liquid wastes and by product solids and s. NR 214.18 (4)(b),(d)-(h) [application, nutrient, pH, metals, and PCB limitations] for sludge spreading systems are included by reference in this permit. The permittee shall comply with these requirements.

## 8 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Final Plans and Specifications	December 31, 2019	22
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Treatment Plant Upgrade to Meet WQBELs	March 31, 2020	22
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Construction Upgrade Progress Report #1	March 31, 2021	22
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Construction Upgrade Progress Report #2	March 31, 2022	22
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Complete Construction	December 31, 2022	22
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Achieve Compliance	January 1, 2023	22
General Sludge Management Form 3400-48	prior to any significant sludge management changes	32
Characteristic Report Form 3400-49	no later than the date indicated on the form	32
Land Application Report Form 3400-55	January 31, each year whether or not waste is land applied	33
Other Methods of Disposal or Distribution Report Form 3400-52	by January 31, each year whether or not waste is hauled to another facility, landfilled, incinerated, or stored in a manure pit	33
Groundwater Monitoring Forms.	no later than the date indicated on the form	30
Annual Land Treatment Reports	by January 31st of each year for the previous calendar year	29
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	22

Report forms shall be submitted electronically in accordance with the reporting requirements herein. Any facility plans or plans and specifications for municipal, industrial, industrial pretreatment and non industrial wastewater systems shall be submitted to the Bureau of Water Quality, P.O. Box 7921, Madison, WI 53707-7921. All other submittals required by this permit shall be submitted to:



Central Office, 101 South Webster Street, P.O. Box 7921, Madison, WI 53707-7921